



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/684,511

10/15/2003

Takeshi Nomura

396.43174X00

6734

20457 7590 04/28/2011
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

PATTERSON, MARC A

ART UNIT

PAPER NUMBER

1782

MAIL DATE

DELIVERY MODE

04/28/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/684,511	Applicant(s) NOMURA ET AL.	
	Examiner MARC A. PATTERSON	Art Unit 1782	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,11 and 16-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,11 and 16-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

WITHDRAWN REJECTIONS

1. The 35 U.S.C. 103(a) rejection of Claims 1, 3 - 4, 11 and 16 – 22 as being unpatentable over Hata et al (U.S. Patent No. 6,033,749) in view of Hille et al (U.S. Patent No. 5,370,910) and Miyazaki et al (U.S. Patent No. 5,491,175) and Dietrich et al (U.S. Patent No. 5,141,968), of record on page 2 of the previous Action, is withdrawn

NEW REJECTIONS

Claim Rejections – 35 USC § 103(a)

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 - 4, 11 and 16 - 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hata et al (U.S. Patent No. 6,033,749) in view of Woodward et al (U.S. Patent No. 3,726,825) and Miyazaki et al (U.S. Patent No. 5,491,175) and Dietrich et al (U.S. Patent No. 5,141,968).

With regard to Claims 1, 11, 19 - 20 and 22 – 25, Hata et al discloses a fuel system comprising a fuel vessel (fuel tank (column 4, line 16), therefore a fuel vessel, comprising having a body comprising a thermoplastic resin (column 2, line 35 - 40); a layer of any resin is formed on the surface of the inside (column 5, line 14 - 18). Hata et al fail to disclose a resin which is a

Art Unit: 1782

coating layer formed by curing a urethane resin composition comprising an active hydrogen containing compound and an organic polyisocyanate compound and having a gasoline permeability coefficient of $0.2 \text{ g } ^\circ\text{mm}^2 \text{ day}$ or less at 23 degrees Celsius and a relative humidity of 60% RH and having the claimed structure in the amount of 20% by weight or more.

Woodward et al teach a coating comprising urethane resin (column 2, line 12) comprising an active hydrogen containing compound which is a polyol and an organic polyisocyanate compound that is the reaction product of an isocyanate and polyfunctional alcohol and having a ratio of isocyanate groups to hydroxyl groups of 1 (column 3, lines 15 – 31), for the purpose of obtaining a coating having a good water and moisture resistance (column 4, lines 8 – 15). One of ordinary skill in the art would therefore have recognized the advantage of providing for the composition of Woodward et al in Hata et al, which is comprises a fuel tank, therefore an automobile part, depending on the desired heat resistance of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a urethane resin composition comprising an active hydrogen containing compound and an organic polyisocyanate compound in Hata et al in order to obtain a coating which is heat resistant as taught by Hille et al.

Woodward et al do not teach a polyol that is an adduct of alkyleneoxide and xylylenediamine, but Woodward et al teach the use of any polyol, and Miyazaki et al teach that an adduct of alkyleneoxide and xylylenediamine is a polyol (column 2, lines 54 - 60).

It therefore would have been obvious for one of ordinary skill in the art to have provided for an adduct of alkyleneoxide and xylylenediamine, as an adduct of alkyleneoxide and xylylenediamine is a polyol. Woodward et al also do not teach a polyisocyanate comprising

Art Unit: 1782

xylylenediisocyanate, but Hille et al teach the use of any diisocyanate (column 5, lines 30 - 31).

It therefore would have been obvious for one of ordinary skill in the art to have provided for xylylenediisocyanate, as xylylenediisocyanate is a diisocyanate. Woodward et al also do not teach that the coating has a gasoline permeability coefficient of $0.2 \text{ g} \cdot \text{mm}/\text{m}^2 \cdot \text{day}$ or less at 23 degrees Celsius and a relative humidity of 60% RH, but the coefficient would be a property of the polyurethane as it would be identical to the claimed urethane.

Hata et al also do not teach a molar alkyleneoxide / xylylenediamine ratio in a range of 2 to 16.

Dietrich et al teach the use of a polyol having a molar alkyleneoxide / aromatic diamine ratio in a range of 2 to 16 in the making of a urethane plastic, for the purpose of obtaining a urethane plastic, for the purpose of obtaining a plastic that is flame - retardant (column 3, lines 20- 50).

It therefore would have been obvious for one of ordinary skill in the art to have provided for a molar alkyleneoxide / aromatic diamine ratio in a range of 2 to 16 in Hata et al in order to obtain a plastic that is flame - retardant as taught by Dietrich et al.

With regard to Claims 3 - 4, the thermoplastic resin disclosed by Hata comprises polyolefin base resin (high density polyethylene; column 2, lines 35 - 40).

With regard to Claim 16, the coating disclosed by Hata et al is formed on the surface of the inside, as stated above, and is therefore formed at an area rate of 100%.

With regard to Claims 17 - 18, the fuel tank disclosed by Hata et al is molded (column 6, line 11), and is therefore equipped with molded parts for a fuel.

With regard to Claim 21, the thickness of the coating taught by Woodward et al is 1 - 200 m (column 13, line 33).

4. Claims 5 - 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hata et al (U.S. Patent No. 6,033,749) in view of Woodward et al (U.S. Patent No. 3,726,825) and Miyazaki et al (U.S. Patent No. 5,491,175) and Dietrich et al (U.S. Patent No. 5,141,968) and further in view of Ramanathan et al (U. S. Patent Publication No. 2003/0044553 A1).

With regard to Claims 5 - 6, Hata et al, Woodward et al, Miyazaki et al and Dietrich et al fail to disclose a tube.

Ramanathan et al teach a fuel vessel having a tube (having a cylindrical opening, therefore tubular, through the wall; paragraph 0073) for the purpose of obtaining a fuel vessel having barrier properties (paragraph 0023). One of ordinary skill in the art would therefore have recognized the advantage of providing for the tube of Ramanathan et al in Hata et al, Woodward et al, Miyazaki et al and Dietrich et al, which comprises a fuel vessel, depending on the desired barrier properties of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a tube in Hata et al, Woodward et al, Miyazaki et al and Dietrich et al in order to obtain a vessel having barrier properties as taught by Ramanathan et al.

ANSWERS TO APPLICANT'S ARGUMENTS

5. Applicant's arguments regarding the rejections of the previous Action have been considered and have been found to be persuasive. The rejections are therefore withdrawn. The new rejections above are directed to amended Claims 1, 3 - 6, 11 and 16 - 25.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A Patterson whose telephone number is 571-272-1497. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Marc A Patterson/
Primary Examiner, Art Unit 1782